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<110> Karras, James G

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<151> 2003-11-14

<150> 09/758,881

<151> 2001-01-11

<150> PCT/US00/09054

<151> 2000-04-06

<150> 09/288,461

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Leu	Ser	Ala	Met	Glu	Tyr	Val	Gln	Lys	Thr	Leu	Thr	Asp	Glu	Glu	Leu	
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gct	gac	tgg	aag	agg	cgg	caa	cag	att	gcc	tgc	att	gga	ggc	ccg	ccc	1008
Ala	Asp	Trp	Lys	Arg	Arg	Gln	Gln	Ile	Ala	Cys	Ile	Gly	Gly	Pro	Pro	
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Asn	Ile	Cys	Leu	Asp	Arg	Leu	Glu	Asn	Trp	Ile	Thr	Ser	Leu	Ala	Glu	
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Ser	Gln	Leu	Gln	Thr	Arg	Gln	Gln	Ile	Lys	Lys	Leu	Glu	Glu	Leu	Gln	
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caa	aaa	gtt	tcc	tac	aaa	ggg	gac	ccc	att	gta	cag	cac	cgg	ccg	atg	1152
Gln	Lys	Val	Ser	Tyr	Lys	Gly	Asp	Pro	Ile	Val	Gln	His	Arg	Pro	Met	
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ctg	gag	gag	aga	atc	gtg	gag	ctg	ttt	aga	aac	tta	atg	aaa	agt	gcc	1200
Leu	Glu	Glu	Arg	Ile	Val	Glu	Leu	Phe	Arg	Asn	Leu	Met	Lys	Ser	Ala	
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Phe	Val	Val	Glu	Arg	Gln	Pro	Cys	Met	Pro	Met	His	Pro	Asp	Arg	Pro	
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Leu	Val	Ile	Lys	Thr	Gly	Val	Gln	Phe	Thr	Thr	Lys	Val	Arg	Leu	Leu	
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gtc	aaa	ttc	cct	gag	ttg	aat	tat	cag	ctt	aaa	att	aaa	gtg	tgc	att	1344
Val	Lys	Phe	Pro	Glu	Leu	Asn	Tyr	Gln	Leu	Lys	Ile	Lys	Val	Cys	Ile	
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370						375					380					
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act Thr	gag Glu	gag Glu	ctg Leu	cac His	ctg Leu	atc Ile	acc Thr	ttt Phe	gag Glu	acc Thr	gag Glu	gtg Val	tat Tyr	cac His	caa Gln	1584
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cca Pro	att Ile	gga Gly	acc Thr	tgg Trp	gat Asp	caa Gln	gtg Val	gcc Ala	gag Glu	gtc Val	ctg Leu	agc Ser	tgg Trp	cag Gln	ttc Phe	1776
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ctg Leu	gcc Ala	ctt Leu	tgg Trp	aac Asn	gaa Glu	ggg Gly	tac Tyr	atc Ile	atg Met	ggc Gly	ttt Phe	atc Ile	agt Ser	aag Lys	gag Glu	2016
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Arg Phe Ser Glu Ser Ser Lys Glu Gly Gly Val Thr Phe Thr Trp Val	
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Glu Lys Asp Ile Ser Gly Lys Thr Gln Ile Gln Ser Val Glu Pro Tyr	
625 630 635 640	
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Tyr Lys Ile Met Asp Ala Thr Asn Ile Leu Val Ser Pro Leu Val Tyr	
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Leu Tyr Pro Asp Ile Pro Lys Glu Glu Ala Phe Gly Lys Tyr Cys Arg	
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Pro Glu Ser Gln Glu His Pro Glu Ala Asp Pro Gly Ser Ala Ala Pro	
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Thr Ile Asp Leu Pro Met Ser Pro Arg Thr Leu Asp Ser Leu Met Gln	
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Pro Met *	
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 ggccagtcgg gcctcagccc cggagacagt cgagaccctt gactgcagca gg atg gct 178
 Met Ala
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cag tgg aac cag ctg cag cag ctg gac aca cgc tac ctg gag cag ctg 226
 Gln Trp Asn Gln Leu Gln Gln Leu Asp Thr Arg Tyr Leu Glu Gln Leu
 5 10 15

cac cag ctg tac agc gac acg ttc ccc atg gag ctg cgg cag ttc ctg 274
 His Gln Leu Tyr Ser Asp Thr Phe Pro Met Glu Leu Arg Gln Phe Leu
 20 25 30

gca cct tgg att gag agt caa gac tgg gca tat gca gcc agc aaa gag	322
Ala Pro Trp Ile Glu Ser Gln Asp Trp Ala Tyr Ala Ala Ser Lys Glu	
35 40 45 50	
tca cat gcc acg ttg gtg ttt cat aat ctc ttg ggt gaa att gac cag	370
Ser His Ala Thr Leu Val Phe His Asn Leu Leu Gly Glu Ile Asp Gln	
55 60 65	
caa tat agc cga ttc ctg caa gag tcc aat gtc ctc tat cag cac aac	418
Gln Tyr Ser Arg Phe Leu Gln Glu Ser Asn Val Leu Tyr Gln His Asn	
70 75 80	
ctt cga aga atc aag cag ttt ctg cag agc agg tat ctt gag aag cca	466
Leu Arg Arg Ile Lys Gln Phe Leu Gln Ser Arg Tyr Leu Glu Lys Pro	
85 90 95	
atg gaa att gcc cgg atc gtg gcc cga tgc ctg tgg gaa gag tct cgc	514
Met Glu Ile Ala Arg Ile Val Ala Arg Cys Leu Trp Glu Glu Ser Arg	
100 105 110	
ctc ctc cag acg gca gcc acg gca gcc cag caa ggg ggc cag gcc aac	562
Leu Leu Gln Thr Ala Ala Thr Ala Ala Gln Gln Gly Gly Gln Ala Asn	
115 120 125 130	
cac cca aca gcc gcc gta gtg aca gag aag cag cag atg ttg gag cag	610
His Pro Thr Ala Ala Val Val Thr Glu Lys Gln Gln Met Leu Glu Gln	
135 140 145	
cat ctt cag gat gtc cgg aag cga gtg cag gat cta gaa cag aaa atg	658
His Leu Gln Asp Val Arg Lys Arg Val Gln Asp Leu Glu Gln Lys Met	
150 155 160	
aag gtg gtg gag aac ctc cag gac gac ttt gat ttc aac tac aaa acc	706
Lys Val Val Glu Asn Leu Gln Asp Asp Phe Asp Phe Asn Tyr Lys Thr	
165 170 175	
ctc aag agc caa gga gac atg cag gat ctg aat gga aac aac cag tct	754
Leu Lys Ser Gln Gly Asp Met Gln Asp Leu Asn Gly Asn Asn Gln Ser	
180 185 190	
gtg acc aga cag aag atg cag cag ctg gaa cag atg ctc aca gcc ctg	802
Val Thr Arg Gln Lys Met Gln Gln Leu Glu Gln Met Leu Thr Ala Leu	
195 200 205 210	
gac cag atg cgg aga agc att gtg agt gag ctg gcg ggg ctc ttg tca	850
Asp Gln Met Arg Arg Ser Ile Val Ser Glu Leu Ala Gly Leu Leu Ser	
215 220 225	
gca atg gag tac gtg cag aag aca ctg act gat gaa gag ctg gct gac	898
Ala Met Glu Tyr Val Gln Lys Thr Leu Thr Asp Glu Glu Leu Ala Asp	
230 235 240	
tgg aag agg cgg cag cag atc gcg tgc atc gga ggc cct ccc aac atc	946
Trp Lys Arg Arg Gln Gln Ile Ala Cys Ile Gly Gly Pro Pro Asn Ile	

245					250					255						
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Cys	Leu	Asp	Arg	Leu	Glu	Asn	Trp	Ile	Thr	Ser	Leu	Ala	Glu	Ser	Gln	
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ctt	cag	acc	cgc	caa	caa	att	aag	aaa	ctg	gag	gag	ctg	cag	cag	aaa	1042
Leu	Gln	Thr	Arg	Gln	Gln	Ile	Lys	Lys	Leu	Glu	Glu	Leu	Gln	Gln	Lys	
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gtg	tcc	tac	aag	ggc	gac	cct	atc	gtg	cag	cac	cgg	ccc	atg	ctg	gag	1090
Val	Ser	Tyr	Lys	Gly	Asp	Pro	Ile	Val	Gln	His	Arg	Pro	Met	Leu	Glu	
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gag	agg	atc	gtg	gag	ctg	ttc	aga	aac	tta	atg	aag	agt	gcc	ttc	gtg	1138
Glu	Arg	Ile	Val	Glu	Leu	Phe	Arg	Asn	Leu	Met	Lys	Ser	Ala	Phe	Val	
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gtg	gag	cgg	cag	ccc	tgc	atg	ccc	atg	cac	ccg	gac	cgg	ccc	tta	gtc	1186
Val	Glu	Arg	Gln	Pro	Cys	Met	Pro	Met	His	Pro	Asp	Arg	Pro	Leu	Val	
				325			330					335				
atc	aag	act	ggc	gtc	cag	ttt	acc	acg	aaa	gtc	agg	ttg	ctg	gtc	aaa	1234
Ile	Lys	Thr	Gly	Val	Gln	Phe	Thr	Thr	Lys	Val	Arg	Leu	Leu	Val	Lys	
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ttt	cct	gag	ttg	aat	tat	cag	ctt	aaa	att	aaa	gtg	tgc	att	gat	aaa	1282
Phe	Pro	Glu	Leu	Asn	Tyr	Gln	Leu	Lys	Ile	Lys	Val	Cys	Ile	Asp	Lys	
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gac	tct	ggg	gat	gtt	gct	gcc	ctc	aga	ggg	tct	cgg	aaa	ttt	aac	att	1330
Asp	Ser	Gly	Asp	Val	Ala	Ala	Leu	Arg	Gly	Ser	Arg	Lys	Phe	Asn	Ile	
				375					380					385		
ctg	ggc	acg	aac	aca	aaa	gtg	atg	aac	atg	gag	gag	tct	aac	aac	ggc	1378
Leu	Gly	Thr	Asn	Thr	Lys	Val	Met	Asn	Met	Glu	Glu	Ser	Asn	Asn	Gly	
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Ser	Leu	Ser	Ala	Glu	Phe	Lys	His	Leu	Thr	Leu	Arg	Glu	Gln	Arg	Cys	
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ggg	aat	gga	ggc	cgt	gcc	aat	tgt	gat	gcc	tcc	ttg	atc	gtg	act	gag	1474
Gly	Asn	Gly	Gly	Arg	Ala	Asn	Cys	Asp	Ala	Ser	Leu	Ile	Val	Thr	Glu	
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gag	ctg	cac	ctg	atc	acc	ttc	gag	act	gag	gtg	tac	cac	caa	ggc	ctc	1522
Glu	Leu	His	Leu	Ile	Thr	Phe	Glu	Thr	Glu	Val	Tyr	His	Gln	Gly	Leu	
435					440					445					450	
aag	att	gac	cta	gag	acc	cac	tcc	ttg	cca	gtt	gtg	gtg	atc	tcc	aac	1570
Lys	Ile	Asp	Leu	Glu	Thr	His	Ser	Leu	Pro	Val	Val	Val	Ile	Ser	Asn	
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atc	tgt	cag	atg	cca	aat	gct	tgg	gca	tca	atc	ctg	tgg	tat	aac	atg	1618

Ile	Cys	Gln	Met	Pro	Asn	Ala	Trp	Ala	Ser	Ile	Leu	Trp	Tyr	Asn	Met	
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ctg	acc	aat	aac	ccc	aag	aac	gtg	aac	ttc	ttc	act	aag	ccg	cca	att	1666
Leu	Thr	Asn	Asn	Pro	Lys	Asn	Val	Asn	Phe	Phe	Thr	Lys	Pro	Pro	Ile	
		485					490					495				
gga	acc	tgg	gac	caa	gtg	gcc	gag	gtg	ctc	agc	tgg	cag	ttc	tcg	tcc	1714
Gly	Thr	Trp	Asp	Gln	Val	Ala	Glu	Val	Leu	Ser	Trp	Gln	Phe	Ser	Ser	
	500					505					510					
acc	acc	aag	cga	ggg	ctg	agc	atc	gag	cag	ctg	aca	acg	ctg	gct	gag	1762
Thr	Thr	Lys	Arg	Gly	Leu	Ser	Ile	Glu	Gln	Leu	Thr	Thr	Leu	Ala	Glu	
515					520					525					530	
aag	ctc	cta	ggg	cct	ggg	gtg	aac	tac	tca	ggg	tgt	cag	atc	aca	tgg	1810
Lys	Leu	Leu	Gly	Pro	Gly	Val	Asn	Tyr	Ser	Gly	Cys	Gln	Ile	Thr	Trp	
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gct	aaa	ttc	tgc	aaa	gaa	aac	atg	gct	ggc	aag	ggc	ttc	tcc	ttc	tgg	1858
Ala	Lys	Phe	Cys	Lys	Glu	Asn	Met	Ala	Gly	Lys	Gly	Phe	Ser	Phe	Trp	
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gtc	tgg	cta	gac	aat	atc	atc	gac	ctt	gtg	aaa	aag	tat	atc	ttg	gcc	1906
Val	Trp	Leu	Asp	Asn	Ile	Ile	Asp	Leu	Val	Lys	Lys	Tyr	Ile	Leu	Ala	
		565					570					575				
ctt	tgg	aat	gaa	ggg	tac	atc	atg	ggg	ttc	atc	agc	aag	gag	cgg	gag	1954
Leu	Trp	Asn	Glu	Gly	Tyr	Ile	Met	Gly	Phe	Ile	Ser	Lys	Glu	Arg	Glu	
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cgg	gcc	atc	cta	agc	aca	aag	ccc	ccg	ggc	acc	ttc	cta	ctg	cgc	ttc	2002
Arg	Ala	Ile	Leu	Ser	Thr	Lys	Pro	Pro	Gly	Thr	Phe	Leu	Leu	Arg	Phe	
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agc	gag	agc	agc	aaa	gaa	gga	ggg	gtc	act	ttc	act	tgg	gtg	gaa	aag	2050
Ser	Glu	Ser	Ser	Lys	Glu	Gly	Gly	Val	Thr	Phe	Thr	Trp	Val	Glu	Lys	
				615				620						625		
gac	atc	agt	ggc	aag	acc	cag	atc	cag	tct	gta	gag	cca	tac	acc	aag	2098
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			630					635					640			
cag	cag	ctg	aac	aac	atg	tca	ttt	gct	gaa	atc	atc	atg	ggc	tat	aag	2146
Gln	Gln	Leu	Asn	Asn	Met	Ser	Phe	Ala	Glu	Ile	Ile	Met	Gly	Tyr	Lys	
		645					650					655				
atc	atg	gat	gcg	acc	aac	atc	ctg	gtg	tct	cca	ctt	gtc	tac	ctc	tac	2194
Ile	Met	Asp	Ala	Thr	Asn	Ile	Leu	Val	Ser	Pro	Leu	Val	Tyr	Leu	Tyr	
	660					665					670					
ccc	gac	att	ccc	aag	gag	gag	gca	ttt	gga	aag	tac	tgt	agg	ccc	gag	2242
Pro	Asp	Ile	Pro	Lys	Glu	Glu	Ala	Phe	Gly	Lys	Tyr	Cys	Arg	Pro	Glu	
675					680					685					690	

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 Ser Gln Glu His Pro Glu Ala Asp Pro Gly Ser Ala Ala Pro Tyr Leu
 695 700 705

aag acc aag ttc atc tgt gtg aca cca ttc att gat gca gtt tgg aaa 2338
 Lys Thr Lys Phe Ile Cys Val Thr Pro Phe Ile Asp Ala Val Trp Lys
 710 715 720

taa cgggtgaaggt gctgagccct cagcaggagg gcagtttgag tcgctcacgt 2391
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